DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-021723
Date Inspected: 10-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See below

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 10W/11W-A1-A5 and the following observations were made:

10W/11W-A1-A5

Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was fit up with the approved temporary attachments or fit up gear in place. Upon the arrival of the QA Inspector, the QC Inspector Tony Sherwood informed the QA Inspector the planar misalignment inspection had been previously performed by SE QC and just required QA verification. The QC Inspector presented the QA Inspector with a planar misalignment map of the areas previously located by QC Tony Sherwood. The QA inspector noted the map indicated the only planar off set was located at 2 locations through out the transverse weld joint. The QA Inspector reviewed the document and proceeded to perform the random QA verification of the weld joint. The QA Inspector observed areas indicated and performed QA verifications working together with the QC Inspector. After the inspection was completed the QA Inspector noted a total of 450mm at three separate locations. The QA Inspector asked the ABF Welding Superintendent Dan Ieraci if he intended to correct the unacceptable planar misalignment (see summary of conversations). The QA Inspector and the QC Inspector recorded the following locations of planar misalignment:

The unacceptable planar misalignment was located at the following 2 locations:
1.) y=1990mm-2045mm (20mm deck section) 0mm-2mm misalignment (50mm in length)
2.) y=12790mm-12940mm (14mm deck section) 0mm-2mm misalignment (150mm in length)

Total planar misalignment 205mm of the total length of the weld joint.

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The QA Inspector and the SE QC Inspectors Tony Sherwood and Leonard Cross performed dimensional verification of the gaps at the steel backing. The QA Inspector noted the 4 separate areas where the gap at the steel backing exceeded 2mm. The QA Inspector noted the largest gap was 4mm and no gap exceeded 4mm for the above identified transverse weld splice. The QA Inspector was informed by the Lead QC Leonard Cross the contractor will write and submit and internal non conformance report in addition to a request to weld repair over the excessive gaps at the steel backing.

Gaps between the steel backing and bevel are located at the following locations:

1.) Y=1990mm-2045mm 10W 3mm (55mm length)
2.) Y=12540mm-12120mm 10W 2.5mm (420mm length)
3.) Y=18120mm-18220mm 11W 2.5mm (100mm length)
4.) Y=12820mm-12920mm 10W 4mm (100mm length)

6W-pp44-W4-2

The QA Inspector randomly observed the ABF welder identified as Mike Jimenez begin fitting up the lifting lug deck insert identified above. The QA Inspector noted the direction of rolling was stamped with a low stress stamp in the center of the insert plate, so no grinding or welding would mask or deface the identifying marking. The QA Inspector randomly observed the bevel angle to be 45°. The QA Inspector noted the surface of the bevel appeared to be a machined surface with bright shinny metal. The QA Inspector noted the ABF welder was utilizing a prefabricated round copper backing plate held in place with magnets. The QA Inspector noted the fit up was completed on the QA Inspectors shift and appeared to be in general compliance with the contract documents. The QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector randomly observed the SMAW parameters were 5/32” E7018 low hydrogen electrodes with 200 Amps for the root pass. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. After the SMAW root pass was completed the QA Inspector randomly observed the welder switch to 3/16” E7018 low hydrogen electrodes with 280Amps and used through the completion of the weld. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on the QA Inspectors shift. It was noted the ABF welder did not remove the weld reinforcement of the QA Inspectors shift.

Summary of Conversations:

Mr. Ieraci informed the QA Inspector no additional fitting tasks would be performed due to the fact that ABF was breaking fit up gear. Mr. Ieraci informed the QA Inspector due to the rigidity of the top deck plate closed rib stiffeners, ABF was unable to perform any additional fitting tasks.

The QA Task Lead Inspector Bill Levell Informed the QA Inspector the Caltrans Structures Representative Karen Wang approved the weld of the areas identified to have planar misalignment at 1400. In addition Mr. Levell informed the QA Inspector the Caltrans Structures Materials Representative Nick Havass approved the weld repair of the areas of the weld joint where the gaps between the steel backing and the bevel exceeded 2mm. The approval for the repair welding was given at 1000.

WELDING INSPECTION REPORT

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Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer